

Remarks

Claims 1-15, 23-38, 46, and 65-122 are pending in the application.

Applicants thank Examiner Melanie Bissett for the thorough examination of the above application. Claims 17-21 and 40-44 are canceled without prejudice or disclaimer thereto. Claims 1, 24, 73 and 98 have been amended, support for which can be found on page 4, lines 28-32 and page 5, lines 24-26. Such amendments are made to address issues only pertaining to form and not the prior art. In view of the amendments and remarks set forth herein, reconsideration, a withdrawal of all rejections, and issuance of a Notice of Allowability are respectfully solicited.

Amended Figure 1 is enclosed herewith which is believed to address the Examiner's concerns expressed in the Office Action.

Claims 73-74, 77-81, 85-88, 91-96, 98-102, 105-108, 112-113, and 116-121 are rejected under 35 U.S.C. § 102(b) as being anticipated by Weisman. The Office Action, in essence, alleges that Weisman discloses all aspects of the claimed invention. Applicants respectfully traverse this rejection.

Weisman does not anticipate these claims. As appreciated by one skilled in the art, Weisman is directed to making open-cell foamed products (col. 11, lines 8-13 of the Office Action). In contrast, Claims 73 and 98 and claims depending therefrom, recite making foams that are closed-cell. Accordingly, since Weisman does not disclose forming closed-cell foams, it does not anticipate Claims 73-74, 77-81, 85-88, 91-96, 98-102, 105-108, 112-113, and 116-121. A withdrawal of this rejection is therefore respectfully solicited.

Claims 1-2, 7, 10-11, 23-25, 28, 33, 35-36, 46, 65-66 and 69-70 are rejected under 35 U.S.C. § 102(b) as being anticipated by PCT Application No. 99/47603 ("Shell"). The Office Action alleges that Shell discloses closed cell foams comprising a thermoplastic blend of PET and polycarbonate, and accordingly anticipates the present invention. Applicants respectfully traverse this rejection.

It is respectfully submitted that Shell does not anticipate these claims. Shell discloses making polymer mixtures having a high melt strength such that they can

be extruded and pulled across, over, or through a die with a low frequency of ripping or tearing. In accordance with the primary objective of Shell, the polymers of the intended strengths possess cell sizes which far exceed those of the present invention. As stated on page 26, lines 27-29 of Shell, "[t]he closed cell foams of the invention will generally have a mean cell diameter in the range of 150 μ m to 250 μ m". No suggestion is provided by Shell to form closed cell foams having different sizes, and in particular not those formed by virtue of the present invention and as now recited in Claims 1 and 24.

In view of the above, Shell clearly does not anticipate the invention since it does not disclose all features of the invention. A withdrawal of the rejection under 35 U.S.C. § 102(b) is therefore respectfully solicited.

Claims 67-68 and 71-72 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shell. The Office Action applied Shell in the manner set forth above. The Office Action admits that Shell does not teach employing an organic or chemical blowing agent. Nonetheless, the Office Action alleges that these claims would be obvious in view of Shell. Applicants respectfully traverse this rejection.

Claims 67-68 and 71-72 recite forming closed-cell foams having average cell sizes which differ from those taught by Shell, as discussed above. Moreover, Shell offers no suggestion as to how its teachings could be modified to arrive at the formation of foams as recited by the present invention. Accordingly, these claims are not obvious in view of Shell. A withdrawal of this rejection under 35 U.S.C. § 103(a) is therefore respectfully solicited.

In the previous Office Action, several claims were rejected under 35 U.S.C. § 102(e) as being anticipated by Humphrey. In view of Applicants' response to this rejection, the Office Action has withdrawn this anticipation rejection. The present Office Action now rejects Claims 1-2, 4-15 and 65-66 as being unpatentable over Humphrey. The Office Action admits that Humphrey does not exemplify making porous foamed materials having a plurality of distinct voids. The Office Action alleges that Humphrey suggests that closed-cell porous foams and foams having

both open and closed cells may be formed by the invention, and that the mobility of electrolyte is increased with an open structure. Accordingly, the Office Action concludes that the present invention is obvious in view of Humphrey. Applicants respectfully traverse this rejection.

Applicants respectfully submit that Humphrey does not render the invention obvious. According to MPEP 2143.01 "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to ones skilled in the art", citing *In re Fine*, 837 F2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones* 958 F2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). At best, Humphrey only briefly alludes to making foams with closed cells (col. 4, lines 54-55). However, when viewed in the context of the teachings of Humphrey in their entirety, one skilled in the art would clearly comprehend Humphrey as teaching making foams having a certain level of open cells. As stated by Humphrey, it is necessary that the polymer employed in the absorber-separator possess mobility (col. 7, lines 28-30). Accordingly, this would not be construed by one skilled in the art as providing the requisite motivation for arriving at the closed cell material as recited by the present invention. Moreover, close examination of Humphrey indicates that it largely, if not exclusively, teaches methods for making open cell foams, notwithstanding the statement noted above in col. 4, lines 54-55. Thus, in view of the legal standard set forth under MPEP 2143.01, one cannot view the claims at issue as being obvious in view of Humphrey. A withdrawal of this rejection is therefore respectfully solicited.

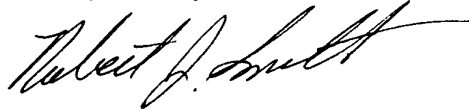
The Office Action also rejects other claims as being obvious in view of a number of references applied in combination with Humphrey, namely Pecsok, van Cleef, and Boutiller. For the reasons made of record during prosecution of this application, and in view of the arguments directed to Humphrey above, it is respectfully submitted that the rejected claims are not obvious in view of the

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rejections made of record in the Office Action. A withdrawal of these rejections under 35 U.S.C. § 103(a) is therefore respectfully solicited.

The points of the Office Action being raised in full, a Notice of Allowability is respectfully solicited.

Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, Washington, DC 20231, on February 20, 2002.



Meredith Schuessler

Date of Signature: February 20, 2002

Version With Markings To Show Changes Made

In the Claims:

Please amend the following claims:

1. (Twice Amended) A method of producing a foamed material, said method comprising:

contacting a mixture comprising a first thermoplastic polymer and a second thermoplastic polymer with a blowing agent, wherein the first thermoplastic polymer has a higher percent crystallinity than the second thermoplastic polymer; and

subjecting the mixture to conditions sufficient to create a thermodynamic instability in the mixture to foam the mixture, the mixture comprising the first and second thermoplastic polymers having a percent crystallinity lower than the first thermoplastic polymer;

wherein the foamed material formed by said method has a plurality of distinct void spaces formed therein having an average size ranging from above about 0 to about 100 microns.

24. (Twice Amended) A method of extrusion processing a mixture of thermoplastic materials, said process comprising:

introducing at least two thermoplastic polymers into an extruder barrel, the at least two thermoplastic polymers comprising a first thermoplastic polymer and a second thermoplastic polymer, and wherein the first thermoplastic polymer has a higher percent crystallinity than the second thermoplastic polymer;

heating the mixture of thermoplastic materials to provide a molten blend thereof;

contacting the molten blend of thermoplastic materials with a blowing agent;
and

subjecting the blend to conditions sufficient to create a thermodynamic instability in the blend to foam the blend, wherein the foamed blend has a percent crystallinity lower than the first thermoplastic polymer;

wherein the foamed material formed by said method has a plurality of distinct void spaces formed therein having an average size ranging from above about 0 to about 100 microns.

Please cancel Claims 17-21 and 40-44 without prejudice or disclaimer thereto.

73. (Amended) A method of producing a foamed material, said method comprising:

contacting a mixture comprising a first thermoplastic polymer and a second thermoplastic polymer with a blowing agent comprising a surfactant, wherein the surfactant is a copolymer selected from the group consisting of a graft copolymer, a block copolymer, and a random copolymer, wherein the first thermoplastic polymer has a higher percent crystallinity than the second thermoplastic polymer; and

subjecting the mixture to conditions sufficient to create a thermodynamic instability in the mixture to foam the mixture, the mixture comprising the first and second thermoplastic polymers having a percent crystallinity lower than the first thermoplastic polymer;

wherein the foamed material formed by said method has a plurality of distinct void spaces formed therein.

98. (Amended) A method of extrusion processing a mixture of thermoplastic materials, said process comprising:

introducing at least two thermoplastic polymers into an extruder barrel, the at least two thermoplastic polymers comprising a first thermoplastic polymer and a second thermoplastic polymer, and wherein the first thermoplastic polymer has a higher percent crystallinity than the second thermoplastic polymer;

heating the mixture of thermoplastic materials to provide a molten blend thereof;

contacting the molten blend of thermoplastic materials with a blowing agent comprising at least one surfactant, wherein the surfactant is a copolymer selected from the group consisting of a graft copolymer; and

subjecting the blend to conditions sufficient to create a thermodynamic instability in the blend to foam the blend, wherein the foamed blend has a percent crystallinity lower than the first thermoplastic polymer;

wherein the foamed material formed by said method has a plurality of distinct void spaces formed therein.